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ORANGE COUNTY AMATEUR RADIO CLUB

P.O. BOX 95, ORANGE, CALIF. 92668

Volume 20, number 2

Feb. 1979

MEETINGS HELD EVERY 3RD FRIDAY AT

Mercury Savings and Loan
1095 Irvine Boulevard
Tustin

0330 UTC (7:30 PM)

THIS MONTH Friday Feb. 16, 1979



ORANGE COUNTY AMATEUR RADIO CLUB—"Formed to promote interest and participation in amateur radio communication, to contribute to the advancement of the radio art, and to maintain fraternalism and a high standard of conduct"

1979 CLUB OFFICERS

President	Terry Mathers	WB6IHZ	638-2565
Vice President	Jay Hall	WA6MOK	531-8448
Treasurer	Frank Smith	WA6VKZ	838-3271
Secretary	Sandi Heyn	WA6WZN	549-8516
Activities	Bill Wallace	AK6E	—
Membership	Al Watts	W6IBR	839-9368
Public Relations	Leonard Victor	WA6RNA	892-1820
TVI	Ted Glick	K6LJA	542-1390
Members-at-Large	Jim Kingsbury	WA6LFF	531-8717
	Bill Myatt	WA6YKH	544-2710

Prez Sez

First of all, I would like to announce for those of you not present at the last club meeting that Jay Hall, W6MOK, has resigned as Vice-President of the Orange County Amateur Radio Club. Jay stated that he was reluctant to make this announce but that it was only fair because of many other commitments, he felt that he did not have adequate time to fulfill the duties as Vice-President. I would like to thank Jay for his active participation in past club activities and I'm sure he will again be active in club affairs when he has fewer obligations.

The Orange County Council of Radio Clubs met on Monday Jan. 29, and I'm happy to announce they elected Jim Kingsbury, WA6LFF, as President of the Council. I would like to say congratulations to Jim and wish him every success in the many activities sponsored by the Orange County Council in 1979, two of which include the Orange County Fair and our Southwest Division Convention.

Those of you who have received your QST for February, probably noticed that Fried, WA6WZO, our SCM should also be congratulated for his very high score in the 1978

I.A.R.U. Radio Sport Championship. As a matter of fact, Fried scored number three in the nation in single operator stations. Also, Fried has been named by Jay Holiday as Assistant Director of A.R.R.L. Southwest Division. Fried's telephone number is 849-8516 and asks that anyone feel free to contact him about A.R.R.L. business.

Finally, I'd like to encourage everyone to attend this month's meeting which will be presented by two of our club members Fred, AG60, and Judy, WA6HEL. They will present a sound and slide program covering their DXpedition to Saint Maartin in Nov. 1978. I understand that the photographs are spectacular since Fred is an excellent amateur photographer and they also recorded the local sounds to go along with the photographs.

73's Terry Mathers WB6IHZ

AF6C DISPLAY BADGE

Many club members have expressed an interest in the club badge that displays my call on an LED readout, and have asked for information on how it works. For those who haven't seen this badge, it displays the call AF6C, one character at a time, followed by a pause before repeating the call again.

The heart of the unit is a seven segment LED readout. This readout is commonly used to display the digits 1 through 9 by lighting the proper segments. It is also possible to display certain upper and lower case letters such as:

A,C,E,F,H,J,L,P,U,a,c,d,h,o and u.

Other letters that can be displayed, but are ambiguous with one of the digits are:

B,I,O,S,Y,Z,b,g and l.

It is possible to display some other letters, also, if you use some imagination!

If your call exclusively uses the letters listed above then you're in luck. Unfortunately, most of the US calls start with a K or W. This definitely presents a problem for most calls, but hams can be very clever so I'll describe the operation of the badge and let those interested take it from there. There are some possibilities: Use a display on its side to form a W; Use a hexadecimal display readout (if you can find one without a built-in driver circuit); The ideal solution is to use a 5x7 dot matrix display such as the Monsanto MAN-2.

Circuit description: Figure one shows the schematic of the badge. Since batteries are used for power, low power consumption is important. The use of CMOS logic minimizes the current drain of the ICs. By far the most current drain is due to the display, so a Monsanto MAN-10A was selected. This device is pin for pin identical to the MAN-1 but requires just half the current for the same brightness. A current of 6 ma. per segment was chosen as a good compromise between power consumption and brightness. It results in an overall average current drain of under 15 ma. for the badge. (This will vary depending on the call programmed into the matrix).

An XRL-555 (low power version of the 555 timer) is connected as an astable multivibrator producing clock pulses at a rate of just over one per second. These pulses trigger a 4022 one of eight counter. The 4022 has eight outputs, only one of which can be high at a time. After each clock pulse the output that was high goes low and the next output in sequence goes high. Since AF6C has four characters only the first four outputs are used. Each, in turn, turns on a transistor. The four unused outputs represent the time during which the display is blank.

A matrix of seven vertical lines and four horizontal lines is programmed, by proper placement of diodes, to hold the four letter call. As each transistor is turned on it pulls the horizontal line connected to its collector low. Each of the seven segments of the display is connected to a vertical line. When a horizontal line goes low the segments connected to it through a diode light. For example, the top line has diodes connect-

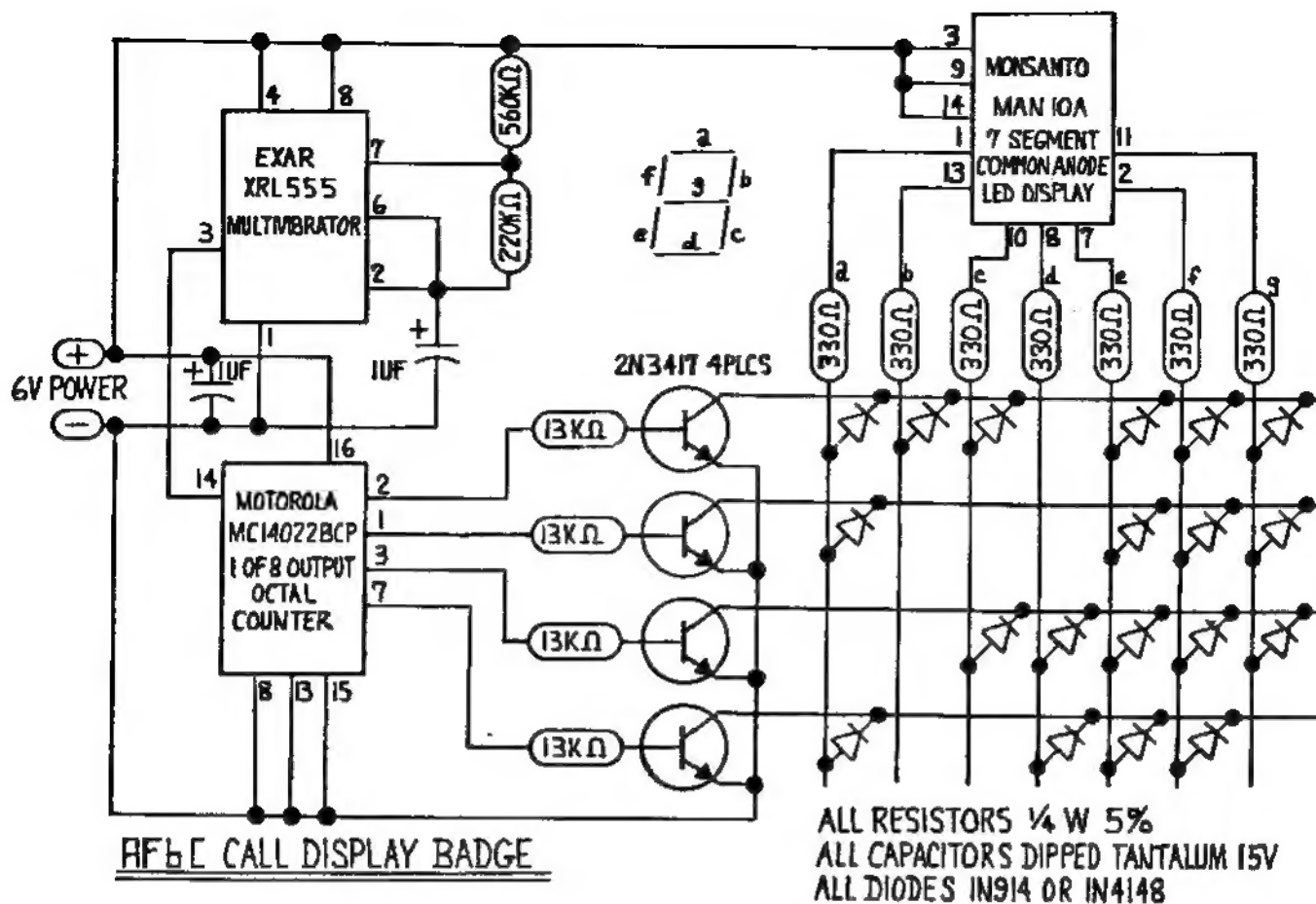


FIGURE ONE

ing it to segments a,b,c,e,f, and g. When these segments are lighted an upper case A is displayed.

For a five or six character call a 5x7 or 6x7 diode matrix is required respectively. Also, a 4017 (one of ten counter) can be used in place of the 4022 for six character calls to give a more reasonable off time. The transistors can be any high gain NPN types (HFE greater than 120). Diodes are small signal computer types; such as IN914 or IN4148. Some mail order houses offer these type diodes in packs of 100 for just a few cents each. The two capacitors are dipped tantalums. One is for the clock timing and the other acts as a filter. The small leakage of this capacitor helps protect the CMOS logic from damage by static charge when the battery is disconnected. Dipped tantalum capacitors are available at most electronic outlets and their size is well worth the slightly higher price.

I have art work available for a printed circuit board for a four character call.

GOOD LUCK, and Happy Flashing!

Bob Eckweiler, AF6C
ex WB6QNU

IIR REPORT

CW ABILITY WOULD NO LONGER be required but only "recommended" for the Amateur Service, the FCC proposed in its just released final Report on WARC 79. Article 41 of the international regulations now requires that operators of Amateur stations shall have proved ability in Morse code, with the proviso that governments can, if they wish, waive the CW requirement above 144 MHz. Under the FCC's proposed change in Article 41, it would only be recommended that Amateur operators should have demonstrated Morse code ability, without any reference to frequency limits. This change would, the Commission said, permit governments to develop their own licensing requirements.

The Only Other Significant Amateur Radio item not previously discussed in HR Reports 231 and 232 was the proposal that Amateur Radio be given a portion of the 902-928 MHz band, along with the Fixed, Radio Location and Mobile Services. However, even if this allocation were to be adopted in Geneva next summer, U.S. Amateur use of the band could be determined by the 900 MHz CB decision. The frequency table also shows Maritime Service as "Prime" for 216-225 MHz, as expected, but it's reported that a coalition of California 220 repeater operators and users is seriously considering mounting a formal legal challenge to this proposal.

BROADCAST INTERESTS MAY THREATEN the U.S. Amateur Radio WARC position far more than the question of sharing 220 MHz with Maritime. U.S. international broadcasters, not satisfied with the 865 kHz of new hf spectrum proposed for them in the Commission's carefully worked out WARC Report and Order, are now waging a behind-the-scenes battle to double that amount at the expense of other hf users. If they succeed it will mean cuts for the other services whose hf expansion was proposed in the U.S. position, and, in the process, destroy much of the carefully worked out agreement achieved by various government agencies and industry advisory groups during the past several years.

The Broadcasters' Position is affirmed by a joint separate statement of Commissioners Washburn and Quello that's included in the WARC Report and Order. In it the two commissioners note that the international broadcasters — specifically the International Communications Agency (Voice of America) and the Board for International Broadcasting (Radio Free Europe and Radio Liberty) — want international broadcasting to have another 800 kHz over and above the new 865 kHz already proposed for it, and also point out that the Executive Branch of the government has yet to make its final decision on the potentially explosive issue.

EMERGENCIES

Having had the opportunity (and misfortune) to be active in several emergencies way back east, and in SET's, thought maybe this "old codger" would present his thoughts on some "do's" rather than "don't's" which most people seem want to do. Probably stir up a hornet's nest, but, sure hope it gets all of us to thinking.

1. Do use phonetics if you're in a weak signal area or there is a possibility that the NCS can mistake a letter of your call (ie: V for B, F for S, etc.)

2. Do keep your transmissions to a minimum. Remember the NCS has to keep track of a "passel" of stations. Whether you realize it or not the poor guy is busier than a one armed paper hanger with a severe case of hives. Would you like to scratch that hard???
3. Do volunteer to help only if requested. The NCS will probably have enough trouble keeping track of the stations on frequency without worrying about what's happening on some other frequency. Believe me, the NCS will be the first one to scream for help-----I know!!!!
4. Do return to net frequency if you're directed by the NCS to QSY to pass traffic as soon as you're through. Not only might you be needed, you'll also know what's going on (and that sure helps).
5. Do cooperate with the NCS in every way possible. Maybe just check in and let him know you're there and available. Remember Winston Churchill's famous quotation, "He also serves who sits and waits."

We all have a public image to uphold and if we remember these "do's" to the uninformed, we sure as heck will look like we know what we're doing. One thing I didn't mention is DO participate in regular drills,, 'cause it's like putting money in the bank. A person can't draw out more than they have in, or at least get away with it for very long.

Al W6IBR

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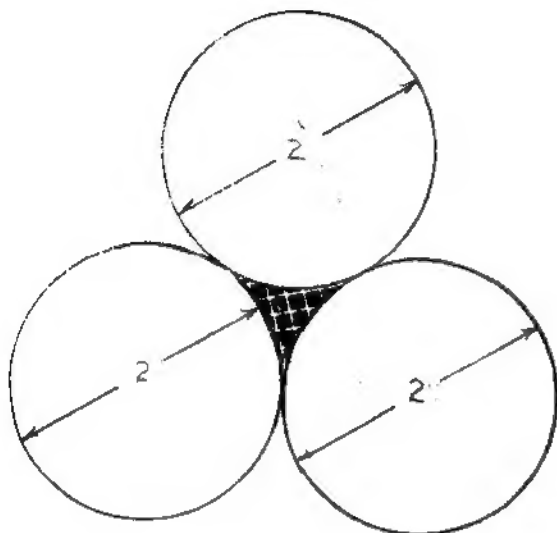
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THIS MONTH'S PUZZLES

A geometry puzzle was submitted by Russ Sanford (WA6NQO). Calculate the shaded area enclosed by the three 2 inch diameter circles.



FAST DEAL

Some card tricks are based on a deal whereby after the cards have been pre-arranged, the top card is dealt out face up, then the second card is transferred from top to bottom. The third card is dealt out face up, the fourth card goes from top to bottom, and so on. Arrange the 13 cards of one suit so they will deal in this manner in order - A, 2, 3, J, Q, K.

Sam Weise - W6LXR

LISTENING TO OSCAR

Every amateur does not necessarily have the proper equipment to communicate via the OSCAR satellites. However many of you would like to listen and "see" what's happening in the space communications world. All it takes is a 10 meter receiver. For those who do not have the schedules or are not interested in computations, a simple table was developed containing local time, direction and frequencies of OSCAR Los Angeles passes. First a few facts:

1. OSCAR 8 - 10 meters downlink is between 29.4 MHz and 29.5 MHz. The beacon is on 29.4 MHz.

2. The satellite travels from south to north. For those who only have beams, point south and slowly go North via the east or the west. The table shows E for eastern pass, O for overhead and W for western pass. The satellite may be heard for about 20 minutes after acquisition.
3. The local time columns indicate the time when the satellite crosses the equator from south to north. The satellite may be heard 3 to 5 minutes after the indicated time. Two, sometimes 3 passes may be heard each evening. The times are indicated for each visible pass. It is to be noted that Mode A which is the mode with 10 meter downlink is not available every night.

Now all you have to do is tune in at the correct time and you can't miss it. For those interested in more information please call me on Ext. ES 82899. Happy listening.

Maurice Piroumian-W6OPB

OSCAR 8 SCHEDULED
LOS ANGELES PASSES

MONTH DATE	LOCAL TIME (PM)							
	1st PASS	E	O	W	2nd PASS	E	O	W
FEB								
1	7:21	X			9:04			X
4	7:37	X			9:20			X
5	7:42	X			9:25			X
7	7:52		X		9:35			X
8	7:57		X		9:41			X
11	6:30	X			8:13		X	
12	6:35	X			8:18		X	
14	6:45	X			8:29		X	
15	6:51	X			8:34		X	
18	7:06	X			8:49			X
19	7:11	X			8:55			X
21	7:22	X			9:05			X
22	7:27	X			9:10			X
25	7:43		X		9:26			X
26	7:48		X		9:31			X

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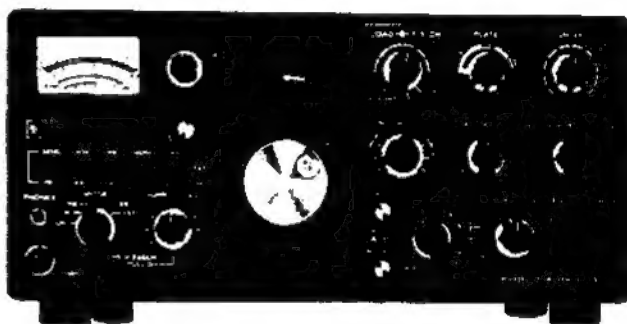
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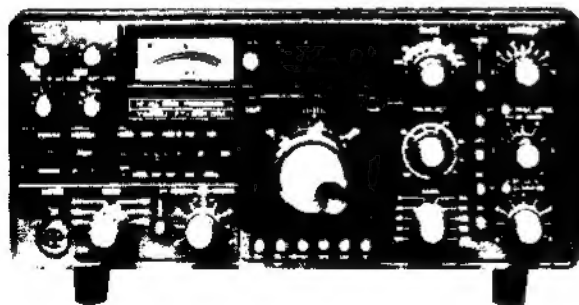
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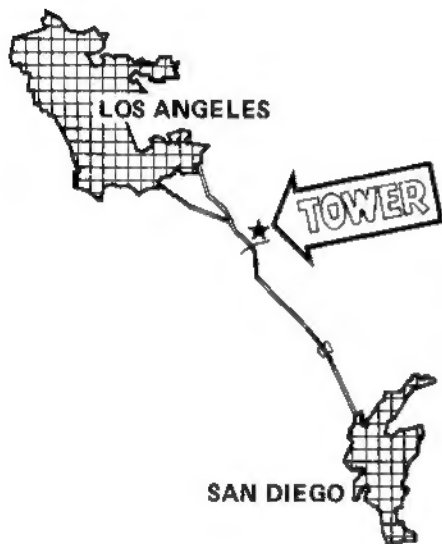
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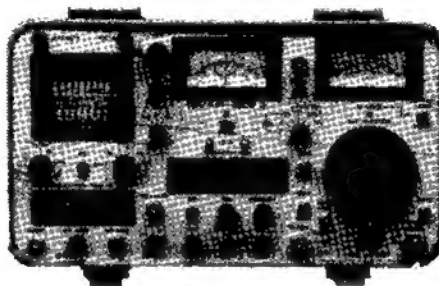
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AMATEUR RADIO

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CLUB ACTIVITIES AND SERVICES

Meetings	The third Friday of each month, 7:30 pm, at Mercury Savings and Loan, 1095 Irvine Blvd, Tustin.
Breakfasts	The first Saturday of each month, 8:30 am., The Cook Book Restaurant 17320 E. 17th St. Tustin .
Nets	Each Wednesday evening: CW - 21.175 MHz at 7 pm SSB - 21.375 MHz at 8 pm 2-Meter FM - 146.55 MHz simplex at 9 pm. Each Tuesday evening: 10-Meter SSB - 28.775 MHz at pm
Callbooks	The latest United States and Foreign Callbook listings (with supplements) are available at the monthly meetings and breakfasts. Additionally, call Bill 544-2102 Wed. after 7
Ham Radio Classes	
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Newspaper	The "RF" is mailed to members during the third week of each month. Call Louie N6AQB at 832-4347 between 7 & 10 pm with inputs for articles, announcements, and classified ads.